AMENDMENTS TO THE SPECIFICATION:

Please replace paragraph number **[0020]** with the following amended paragraph:

~~Figure 1(a)~~ Figure 1 is a top schematic view of the precision cutter station of the system of this application;

Please replace paragraph number **[0021]** with the following amended paragraph:

~~Figure 1(b)~~ Figure 2 is a front schematic view of the precision cutter station of the system of this application;

Please replace paragraph number **[0022]** with the following amended paragraph:

~~Figure 1(c)~~ Figure 3 is a side schematic view of the precision cutter station of the system of this application;

Please replace paragraph number **[0023]** with the following amended paragraph:

~~Figure 2~~ Figure 4 is a front schematic view of the transport system of the system of this application;

Please replace paragraph number **[0024]** with the following amended paragraph:

~~Figure 3~~ Figure 5 is a top schematic view of the punch station and transport system of the system of this application;

Please replace paragraph number **[0025]** with the following amended paragraph:

~~Figure 4~~ Figure 6 is a side schematic view of the punch station and transport system of the system of this application;

Please replace paragraph number **[0026]** with the following amended paragraph:

~~Figure 5(a)~~ Figure 7a is a perspective view of a continuous belt having a puzzle cut joint;

Please replace paragraph number **[0027]** with the following amended paragraph:

~~Figure 5(b)~~ Figure 7b is an enlarged view of a ~~section~~ portion of the puzzle cut joint;

Please replace paragraph number **[0028]** with the following amended paragraph:

~~Figure 6~~ Figure 8 is a block diagram of a control system used in the system of this application;

Please replace paragraph number **[0029]** with the following amended paragraph:

~~Figure 7~~ Figure 9 is a block diagram showing the steps of the method of this application;

Please replace paragraph number **[0030]** with the following amended paragraph:

~~Figure 8a~~ Figure 10a is a bottom view of a vacuum bar used in the system of this application;

Please replace paragraph number **[0031]** with the following amended paragraph:

~~Figure 8b~~ Figure 10b is an enlarged sectional schematic view of the vacuum bar of ~~figure 8a~~ Figure 10 a through section lines A-A;

Please replace paragraph number **[0032]** with the following amended paragraph:

~~Figure 9a~~ Figure 11 is a side schematic view of the left punch station of the system of this application; and

Please replace paragraph number **[0033]** with the following amended paragraph:

~~Figure 9b~~ Figure 12 is a top schematic view of the sensor in the left punch station of ~~figure~~ Figure ~~9a~~11.

Please replace paragraph number **[0034]** with the following amended paragraph:

The system of this application consists of an assembly of three process stations, which are positioned adjacent to each other and are mutually controlled by a main computer controller 14. The stations comprise a precision cutter 1, a pick and place mechanism 2, and a punch station 3. Each of the stations 1-3 sequentially processes a belt material comprising a flat piece of belt material 17 having a length l and a width w. Since contamination of the belt surface is to be avoided, manual manipulation of the belt material 17 is minimized. In addition, because of the need for accurate dimensioning of the belt blank, accurate positioning of the belt material must be maintained. Station 1 cuts the blank of belt material to predetermined dimensions. The width and rectangular shape of the blank are cut to close tolerances, while a limited amount of extra material is provided in the length to facilitate later processing. Station 2 is mainly a transport to move the blank 17 from station 1 to station 3, but it also must maintain the material in position and in a taut condition for accuracy and to avoid damage. Station 3 is a punch press, which uses a pair of die and punch sets to accurately make the puzzle cut at both ends of blank 17. An example of a puzzle cut joint is shown in ~~figures 5a and 5b~~Figures 7a and 7b.

Please replace paragraph number **[0035]** with the following amended paragraph:

Precision cutter station 1, as shown in ~~figures 1a-1c and 6~~Figures 1-3 and the block diagram of Figure 8, comprises the first work station of the system. As illustrated in ~~figure 6~~Figure 2, this station is constructed with a cutting table 6 that includes a vacuum hold down system 7. A static blade is mounted on a platform 19 that is moveable in controlled X-Y motions above cutter vacuum table 6. Although a static blade has been found to effectively perform the required cutting steps, a rotating blade could also be used. As shown in ~~figures 1a-1c~~Figures 1-3, the platform 19 is mounted for longitudinal movement in the Y direction on table 6, while the cutter blade (not shown) is mounted for transverse movement on the platform 19 to provide the X movement. The motion of the cutter is provided by any appropriate computer controllable means, for example stepping motors. A vacuum hold down is constructed in the supporting surface of the table 18. The vacuum may be applied to the belt material 17 by means of a series of orifices 34 drilled in the supporting surface. A pump 15 is connected to the table 18 and is designed to both evacuate a plenum 33 in the table 18 and to provide pressurized air to the plenum 33. In this manner an appropriate releasing force may be applied to assist removal of the blank 17.

Please replace paragraph number **[0037]** with the following amended paragraph:

Pick and place assembly 2 consists of multiple vacuum bars 9 connected to a source of vacuum that is applied under computer control. The bars 9 are elongated and span the width w of the blank 17. The lower surface 26 of the vacuum bars 9 forms an interface with the blank 17 which is of generally rectangular shape. Lower surface 26 is constructed with a pattern of slots 27 shaped as shown in ~~figure 8a and 8b~~Figures 10a and 10b. Vacuum is supplied to the slot pattern 27 through ports 28. Slot pattern 27 distributes the application of the vacuum evenly over interface surface 26 to the blank 17 to provide a reliable and secure pickup force in each of the vacuum bars 9.

Please replace paragraph number **[0038]** with the following amended paragraph:

An array of three vacuum bars 9 are mounted on each of the arms 20 and extend over the blank 17 at a slight clearance in the pickup position. The vacuum bars 9 are displaced along the length of the arms 20 to apply a holding force to the blank 17 which is distributed over the length of the blank.

Each of the arms 20 are supported by a hanging mount 21 that provide the connecting apparatus for the vacuum bars 9. Hanging mounts 21 are in turn slidably mounted on cantilever rails 22 that extend over the precision cutter station 1, as shown in ~~figure 4~~Figure 6. The hanging mounts 21 also provide movement transverse to the longitudinal axis of the rails 22 to allow movement of the blank 17 within the punch station 3. A pair of drives 25 are operatively connected to the hanging mounts 21 to move the vacuum bars 9 along the rails 22 to and from the pick up position. This allows the movement of the cut blank 17 from the precision cutter station 1 to the punch station 3. The vacuum bars 9 are intended to engage blank 17 continuously after blank 17 is picked up from the cutting station. However, the outermost vacuum bar on either side will interfere with the operation of the respective punch set. To avoid this the outermost vacuum bar looses its vacuum and retracts out of the way of the punch set. The mechanism which accomplishes this is shown in ~~figure 9a~~Figure 11. The outermost vacuum bar 43 is mounted on a bracket 44. Bracket 44 may be pivoted about axis 40 by cylinder 41. Cylinder 41 is operatively connected to the vacuum bar 43 by actuating shaft 42.

Please replace paragraph number **[0039]** with the following amended paragraph:

The punch station 3 is constructed with a pair of punch presses consisting of right press 10 and left press 11 which typically consist of a punch and die set. The punch elements cooperate to cut a pattern according to the shape of the die. In cutting the puzzle joint pattern 30 shown in ~~figure 5~~Figures 7a and 7b, a die having the shape of the petal shaped openings 31 and petals 32 would be used. Such presses are well known in the art and may be driven by hydraulically or electrically powered actuators 12 by computer controller 14.

Please replace paragraph number **[0040]** with the following amended paragraph:

Accuracy of the puzzle cut joint depends on a precise alignment of the blank 17 with respect to the punch/die sets 10 and 11. This is accomplished by optical monitor 13 which consists of optical sensors 23 and 24 operatively positioned adjacent to each of the punch sets to sense the location of the lengthwise edge of the blank 17 as it is moved into the die press 10 or 11 by pick and place assembly 2. The sensors 23 and 24 are identical elements, one of which is shown in ~~figure 9a and 9b~~Figures 11 and 12. A digital camera 36 is used which may consist of a charge coupled device mounted under the punch table with line of sight access to the edge 38 of blank 17, as shown in ~~figure 9b~~Figure 12. An optical element 37 is

coupled to the camera and consists of a light source and lens (not shown). Cameras of this type are commercially available, for example, model CV050 from KEYENCE CORPORATION of Woodcliff Lake, New Jersey.

Please replace paragraph number **[0043]** with the following amended paragraph:

Referring to Figures 4-6, the ~~The~~ precision cutter station 1 is positioned adjacent to the puzzle cut punch station 3. After the cutting operation, the blank 17 of blank material is engaged by pick and place mechanism 2. Cantilevered arms 20 slide along rails 22, on hanging mounts 21, from a position in which they extend over the cutting station 1 to a position where they extend into the punch station 3. Vacuum bars 9 extend the width of the blank 17 and apply a suction in a distributed pattern, see ~~figure 8a and 8b~~Figures 10a and 10b, over the length of the vacuum bars 9. When the cutting operation is completed, the vacuum bar assembly, which includes bars 9, cantilever arms 20 and hanging mounts 21, are moved over the blank 17 with a slight clearance. Simultaneously, the vacuum of the vacuum bars 9 is applied while the vacuum of the cutting table 18 is reversed. This insures a reliable and accurate release of the blank 17 from the cutting table 18 and a secure capture of the blank 17 by vacuum bars 9.

Please replace paragraph number **[0045]** with the following amended paragraph:

The blank 17 is positioned on the work platform of the punch station 3 in registration with one end of the punch press by means of optical monitor 13 which senses and registers a lengthwise edge 38 of the blank 17, see ~~figure 9b~~Figure 12. When optical monitor 13 indicates to controller 14 that one end of blank 17 is registered with, for example, left punch die set 11, controller 14 actuates the actuating mechanism 12 of left punch set 11 to clamp and punch the left end of blank 17. After one end is punched with the puzzle cut petals 31/32, the blank is released from the left punch set and shifted a predetermined distance to the right punch set 10 on vacuum bars 9 to cut the mating petals. The cutting process in punch set 10 establishes the final length of the blank 17. At each position, the location of the blank 17 is monitored by optical sensors 23 and 24 to insure continuous alignment of the blank 17 in relation to the punch sets. Left and right optical sensors 23,24 insure the continuity of alignment of the lengthwise edge of blank 17 in the punch station 3.